

## **ABSTRACT**

A concentrated flavour dispensing machine having displacement pumps for delivering between a few millilitres and few ounces of fluids having a viscosity value between 1 to 4000 centipoise is described. The dispensing machine includes a cabinet for containing a multitude of displacement pumps, where each displacement pump is in direct fluid communication with a respective storage tank, and a control panel having a programmable microprocessor mounted to the cabinet for receiving user selections and controlling each individual pump. Each displacement pump includes a stepper motor in engagement with a threaded drive rod for advancing a piston by any one of several predetermined distances to dispense a corresponding volume of fluid. The control panel receives a valid user selection for actuating one or more pumps to dispense the appropriate volume of a concentrated flavouring fluid. The microprocessor tracks the amount of fluid dispensed from each storage tank and alerts users and/or prevents further operation when reservoirs are close to empty to avoid null dispenses to customers. Various maintenance routines can be executed through the user interface, and dispense volumes and combination dispenses can be re-programmed manually or automatically.